



City of Moose Jaw

COMMUNICATION # CC-2019-0080

TITLE: 2019 Solid Waste Budget Enhancements

TO: City Council

FROM: Engineering

DATE: July 5, 2019

PUBLIC: PUBLIC DOCUMENT

RECOMMENDATION

THAT the City proceed with design for remediation of the leachate leak on the East face of the Landfill at a cost of \$50,000 to be funded from the solid waste reserve.

THAT the City purchase ten portable wind fences for litter control at the landfill at a cost of \$90,000 to be funded from the solid waste reserve.

THAT the City install one additional groundwater monitoring well at the landfill at a cost of \$17,500 to be funded from the solid waste reserve.

THAT the City proceed with a landfill gas evaluation at a cost of \$50,000 to be funded from the solid waste reserve.

TOPIC AND PURPOSE

Five budget enhancements were brought forward during the 2019 Budget sessions specific to the Solid Waste Utility. Four of these enhancements were supported by the City Manager, however City Council approval was never received for these projects. The Utility still requires approval from Council to move ahead with the enhancements.

BACKGROUND

The Engineering Department presented several enhancements as part of the 2019 Budget. At one stage in the budgeting process several of these enhancements were supported. However, as deliberations continued the reduction in capital expenditures resulted in these enhancements not being included in the 2019 Budget.

These enhancements included four items in the Solid Waste Utility. It should be noted that of the four (4) enhancements – there are three (3), which are regulatory requirements and must be included in the Budget.

The four (4) enhancements supported by the City Manager include: landfill leachate design for remediation, portable landfill wind fences, installation of a groundwater monitoring well, and a landfill gas evaluation. Budget enhancements are completed separately as a manual process outside of the budget system tools used for established programs. When Engineering capital expenditures were reduced due to Council's motion to reduce all Capital spending from \$240,000,000 to \$200,000,000, these enhancements were missed and not included with the rest of the Capital programs.

DISCUSSION

An overview of each of the four enhancements is as follows:

- The landfill has a leachate leak on the East side of the current active cell. This leak was identified as regulatory finding MJL-2017-17 in the City's 2017 Ministry of Environment Audit Report. The Engineering Department requests to have an analysis completed to determine the scope and recommended repair methods to remediate the leak. The estimated cost to have this done is \$50,000.
- The City of Moose Jaw's Permit to Operate a Landfill and The Municipal Refuse Management Regulations state that all reasonable steps must be taken to ensure that windblown litter is prevented from leaving the landfill site and that it is collected if it does leave the site. Landfill operations staff have reduced the risk of windblown litter through the practices of maintaining a small working face and the regular application of cover material however further measures are required to contain this litter. The City currently has six portable wind fences. Regulatory finding MJL-2017-06 from the City's 2017 Ministry of Environment Audit Report found current practices were not sufficient. The Utility is therefore requesting ten additional portable wind fences in order to properly comply with this finding at an estimated cost of \$90,000
- The City of Moose Jaw currently has 15 active groundwater monitoring wells in and around the landfill that are regularly monitored for compliance with our regulator. Groundwater wells monitor the migration of heavy metals and other environmentally hazardous materials in and around the landfill and their proximity and potential for pollution to existing water systems. Regulatory finding MJL-2017-12 from the City's 2017 Ministry of Environment Audit Report concluded that one new monitoring well is required to replace one inoperable well. The Utility is requesting \$17,500 to resolve this finding.
- Landfill gas, primarily methane, is produced from decomposing waste. This is a very harmful greenhouse gas. If this is not vented from landfills, the danger from gas build up and explosions is high. Currently the City of Moose Jaw has passive wells installed to vent these gasses to be dispersed in the atmosphere. This gas

can be captured and converted to electricity. SaskPower can enter into agreements with municipalities to purchase this electricity and distribute it into the electrical grid thereby creating a revenue source for the City of Moose Jaw. Based on systems currently in use in Regina and Saskatoon, there is the potential for a revenue stream of \$100,000 to \$250,000. Additionally, it is not yet fully known what role landfills will play in the Federal carbon reduction initiative. Landfills account for 20% of all methane releases in Canada. Proper management of these harmful gasses could generate carbon offset credits for the City. The Utility is requesting \$50,000 to evaluate the quantity, quality and potential use of gas in the landfill.

In summary, three (3) of the four (4) enhancements requested are current regulatory findings for the City to address. The landfill gas request does not currently fall under a regulatory finding but increased scrutiny is being applied in this area. The City reported its estimated methane and carbon dioxide releases for 2018, calculated through a desktop study, to the Federal Government for the first time in 2019. All four enhancements have an estimated total of \$207,500. It is proposed that this funding can come from the Solid Waste Utility Reserve which has sufficient funding to cover these expenditures.

FINANCIAL IMPLICATIONS

- \$207,500 funded from the Solid Waste Utility Reserve. The Solid Waste Utility Reserve is projected to have a balance of approximately \$1,900,000 at the end of 2019 and would therefore have sufficient funds available for these projects.

PUBLIC NOTICE

Public Notice is not required.

PRESENTATION

VERBAL: The Director of Engineering Services will be in attendance at the meeting to present the report.

ATTACHMENTS

- i. Capital Project Sheet – Landfill Leachate Remediation
- ii. Capital Project Sheet – Landfill Wind Fences
- iii. Capital Project Sheet – Landfill Groundwater Monitoring Wells
- iv. Capital Project Sheet – Landfill Gas Study
- v. Letter of Communication – 2019 Budget Enhancements

REPORT APPROVAL

Written by: Darrin Stephanson, Manager of Utilities

Reviewed by: Tracy Wittke, Assistant City Clerk

Approved by: Jim Puffalt, City Manager

Approved by: _ Fraser Tolmie

To be completed by the Clerk's Department only.

Presented to Regular Council or Executive Committee on _____.

No. _____ Resolution No. _____